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DISEASES OF THE EAR, NOSE AND THROAT

By CHARLES R. C. BORDEN, M.D.

Boston, Mass.

THIRD PAPER: MASTOIDITIS

Immediately behind the auricle is a thick, rounded mass of bone which is known as the mastoid process. Within this firm structure is a cavity of considerable size. In the average case the cavity is divided by very thin partitions of bone into a number of small cells. These are lined with mucous membrane which is continuous with that of the middle ear. Inflammation of the mastoid cavity, known as mastoiditis, is not uncommon.

Mastoiditis is a process secondary to acute inflammation of the middle ear; in fact, it is an extension of the inflammatory process from one cavity to the other by way of the natural opening or channel between the two. The anatomical position of the mastoid cavity is such as to make inflammation in this locality a relatively dangerous matter. Immediately above it is the cranial cavity, behind it is the cerebellum, and within the mastoid cavity itself runs the internal jugular vein. Thus extensions of infection from the mastoid, in practically any direction, mean grave danger to the life of a patient. In the early stages mastoiditis is not especially dangerous; hence it is of great importance to recognize it at the first possible moment. Scarlet fever, measles, grippe, diphtheria and pneumonia are the constitutional diseases which are prone to have mastoiditis as a secondary complication.

Certain symptoms of mastoiditis are easy to recognize if the observer has the proper knowledge and is on the watch for them.

Pain is a common and distressing symptom of mastoiditis. It is usually a combination of headache and earache and is worse during the night. In adults, pain is a more or less constant accompaniment of this disease. In children, on the other hand, pain is often absent. The mastoid wall in children is relatively thin and is easily perforated by the pus, hence the confined fluid is automatically liberated. This is the reason for the development of sudden swelling behind the ear without previous symptoms.

Elevation of temperature is a treacherous symptom upon which to base a diagnosis. It may be present or it may be absent. It may vary from normal to 105° or more. The writer does not wish to give the impression that increased temperature is not an important symptom. It is a very important symptom when present. It is a common mistake, however, in otology to assume that absence of fever means lack of infection in the mastoid cavity. When high temperature with marked remissions is present, we have a symptom which is of the utmost importance; it indicates a degree of septic absorption which is a serious matter. A marked chill followed by a high temperature is the most serious symptom of which we know, as it usually indicates extension of infection from the mastoid to the cranial cavity or internal jugular vein; it is an alarming symptom and one which calls for immediate and radical methods of treatment.

Another symptom which appears early in mastoiditis is tenderness on pressure over the mastoid process. The tenderness varies in different cases. The slightest touch may cause pain to the patient, or it may require considerable pressure to produce discomfort. The exact location as to the point of tenderness also varies. It is usually first tender over the tip of the process, gradually extending over the entire mastoid surface. In children, often the first symptom to be noted is a sudden swelling behind the ear. It is not uncommon to have such swellings in the morning when no suspicion of it was present the evening before. This swelling is usually prominent and unmistakable. It is very common during the convalescent period of scarlet fever.

Brain abscess, infection of the internal jugular vein or abscess of the cerebellum are diseases so far advanced that little or no mention of them can be given in a paper of this kind.

Chronic Suppurative Otitis Media.—Chronic Suppurative Otitis Media is a disease in which, as the name applies, there is a chronic inflammatory process present in the middle ear. Its most prominent symptom is a more or less constant discharge. The amount of discharge varies in different cases. It is usually relatively small in amount as compared with that in acute types of aural diseases. Chronic otitis media may be present for many months or years. The discharge is not always continuously present; there may be weeks when the ear is dry, followed by a similar period of discharge. There is seldom any true earache in this disease but headache, more or less frequent, is common and is an important symptom.

Chronic otitis media is one of the most difficult diseases to cure which occur in an aurist's practice. It is a deep-seated disease and does not yield easily to treatment. It is often overcome only by a very delicate and dangerous operation which is performed as a last resort. No two cases of chronic otitis media are similar; each case must be treated according to its individual needs and it requires great skill and experience to diagnose properly such cases. Neither family physicians nor nurses should experiment with such cases.

Chronic otitis media that smoulders along year after year is apt to suddenly flare up into an exceedingly dangerous complication. Brain abscess cases usually arise from this type of disease. Patients are often unaware that a chronic discharge is present in the ear, but the presence of such a discharge usually makes itself manifest by a disagreeable odor. In such case there is always the temptation to irrigate the afflicted ear with watery solutions, peroxide of hydrogen, etc. This treatment almost invariably makes the condition worse. Chronically inflamed middle ears are usually more or less filled with granulation tissue, hence watery solutions are not tolerated.

Once more the writer wishes to emphasize the importance of skillful diagnosis and treatment of chronic middle ear diseases.

Treatment of Acute Otitis Media.—Simple earache is best treated by hot irrigations of plain water. Inhalations of hot steam give relief in a certain number of cases, but the hot irrigations are more dependable. Hot oil, hot raisins, salt bags, etc., act simply by virtue of the amount of heat they contain; this is comparatively small. With irrigations of hot water, heat may be applied to the inflamed areas continuously until relief is obtained.

To irrigate an ear properly requires some previous experience or expert knowledge. Unless it is well done it is a useless method of treatment, the writer has seen many exhibitions of poor work in this direction. First of all a suitable syringe must be provided. Next there must be a proper receptacle to catch the water as it runs from the ear. The kidney-shaped pus basin is the best for the purpose. In a private house, where a pus basin is not available, a quart bowl is the next best thing. The water should be as hot as can be borne by the patient but the temperature should never be greater than 105°. Very hot or cold water will cause vertigo. The force of the stream should be as gentle as possible, as undue force will also produce vertigo. The best syringe for the purpose is a two quart fountain syringe with a proper tip. It should be held about two feet above the patient's head. If placed higher than this, the force will be too great. With the proper appliances at hand, the patient is placed in a sitting position and his or her clothing protected by a rubber sheet or a thick towel. The patient or attendant holds the basin close against the neck about one inch below the auricle. If it be held higher than this it will interfere with the proper method of procedure. The auricle is now firmly and gently grasped between the thumb and fore finger of the left hand and drawn upward and backward. This is to straighten out the canal of the ear in order that the irrigations may reach well into the passage. The tip of the syringe is slightly introduced into the canal in such a direction and manner that the stream of water will reach the desired point. The tip of the syringe must be held lightly in the fingers in order that it may be withdrawn upon the slightest movement of the patient. In the event of a large, wide canal, the stream of water should not be directed straight at the drum but rather against the posterior wall. If the pain is severe, it will be wise to allow the entire contents of the syringe to flow into the canal. If the pain returns, the syringing may be repeated at short intervals. If hot irrigations fail to control the pain, a physician should be called. If, upon examination, the drum is found to be red and bulging, a free incision should be made in that structure at once. In the average case, a discharge will follow within twenty-four hours. When the discharge is established, the pain usually disappears. If the pain continues and a discharge does not appear, the drum membrane must again be opened if still bulging.

Syringing the ear for the purpose of cleansing the canal is often necessary and is frequently ordered by the physician in charge of a case of aural disease. The method is the same, except that only an amount of water necessary to effect the result is used. For cleansing the canal the tip of the syringe should be very small. The glass part of a medicine dropper makes an excellent tip for the purpose. Simply squirting water at the ear with the tip an inch or more away from the auricle will not bring success. The tip must be inserted into the canal sufficiently to wash away the accumulation of pus. Sterile water or normal salt solution should be used for the irrigation. Antiseptic solutions, so called, should be used with caution. The writer has seen severe reaction following the use of strong carbolic acid, bichloride of mercury, and sulpho-napthol solutions. Solutions of boracic acid have no advantages over normal salt solutions or plain sterile water. Bichloride solution should never be used stronger than one to ten thousand. Carbolic acid or sulpho-napthol should not be used at all.

After an irrigation, the canal of the ear should be dried as well as possible with sterile cotton. If the patient is to go out into the cold air, dry cotton should be placed in the canal and allowed to remain there until he reaches home, then the cotton should be removed. Cotton should never be allowed to remain in the canal for any length of time as its presence is irritating to the lining membrane and it produces an unnatural amount of heat. Unless a chronic discharge from the ear is present, there is no occasion for cotton to be worn in the external auditory canal for more than a few hours.